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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,672	12/31/2001	Takayuki Sugahara	0102/0192	5082

21395 7590 02/08/2006

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EXAMINER	
EDWARDS, PATRICK L	
ART UNIT	PAPER NUMBER
2621	

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/029,672	SUGAHARA ET AL.	
	Examiner	Art Unit	
	Patrick L. Edwards	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) *5-8,13,14 and 21-25* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4, 9-12 and 15-20* is/are rejected.

7)☒ Claim(s) *1-4,9-12 and 15-20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The response received on 11-17-2005 has been placed in the file and was considered by the examiner. An action on the merits follows.

Response to Arguments

2. The arguments filed on 11-17-2005 have been fully considered. A response to these arguments is provided below.

35 USC 112, Second Paragraph Rejections

Summary of Argument:

(A) Applicant traverses the 112(2) rejection and cites *S3 Inc. v. Nvidia Corp.* for the proposition that "it is not the role of the claims to explain the processing involved in the invention" (see remarks pg. 2).

Examiner's Response:

The examiner agrees with the stated proposition, but would like to respectfully remind applicant that the role of the claims is to legally define the invention by clearly enacting its metes and bounds. The metes and bounds of the instant claims are not clearly defined, and thus the rejection will be repeated.

(B) Applicant further traverses the argument by referring to the passages from the specification which support certain aspects of the claim

Examiner's Response:

In the applicant's argument, it appears that passages are cited for the purpose of showing support for the claims. This is unnecessary. The claims were not rejected because they lack support. This is a 112(2) rejection, not a 112(1) rejection. The claims were (are) rejected because they do not clearly set forth the metes and bounds of the invention. Until those claims are amended, the rejection will be repeated. If applicant wishes to define the invention using certain passages from the specification, then applicant is respectfully invited to amend the claims to incorporate that language. Applicant, however, may not incorporate the specification into the claims by reference (see MPEP 2106, and more specifically E-Pass Techs., Inc. v. 3Com Corp., 343 F.3d 1364).

Request for Information Disclosure

3. The prior art system described in the applicant's remarks (pg. 3, 3rd paragraph) is considered extremely pertinent to the prosecution of the application. However, the applicant has not disclosed any documentation which teaches such a system. The examiner hereby requests that the applicant provide an

information disclosure statement with documentation that teaches the system described in the background of the specification. This request is consistent with 37 CFR § 1.105.

Claim Objections

4. The follow quotations of 37 CFR § 1.75(a) provides the basis of objection:

(a) The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

5. Claim objected to under 37 CFR § 1.75(a) as failing to particularly point out and distinctly claim the subject matter which the applicant regards as his invention or discovery, and failing to conform to the invention as set forth in the remainder of the specification.

Regarding claims 1 and 3, the claim recites "calculating a desired bit pattern represented by specified bits." The metes and bounds of this phrase are unclear as it is not clear how/why the desired bit pattern is represented by specified bits. Wouldn't the desired bit pattern be represented by desired bits?

Further, the metes and bounds of the phrase "wherein the desired bit pattern can be converted into the specified bit pattern by given logical operation with the predetermined bit pattern" are also unclear. The claim previously states that the desired bit pattern is represented by specified bits. So, how and why are a desired bit pattern converted into a specified bit pattern, if the desired bit pattern is already represented by specified bits? This simply doesn't make any sense. The examiner is unable to make a clear distinction between specified bits, desired bits, and predetermined bits (or predetermined bit patterns).

Claims 9, 12, 15, and 19 are also rejected along the same grounds as claims 1 and 3 above. The examiner is simply unable to make a clear distinction between the claimed predetermined bit pattern, specified bits, specified bit pattern, and desired bit pattern. As a result, it is not clear how all these elements interact with one another.

Referring to claims 9 and 12, there is no antecedent basis for the terms "specified bits" or "specified bit pattern" as used in lines 11 and 12 of claim 9 and lines 8 and 9 of claim 12.

Further referring to claims 9 and 12, there is no antecedent basis for the term "watermark data." The claim refers to a watermark-embedding position, but does not make any reference to watermark data.

Further referring to claims 9 and 12, the claim recites "embedding a result of the given logic operation." This is ambiguous because the claim refers to two different logic operations. One between the desired bit pattern, and the fixed bit pattern, and one between watermark data and the random-number data.

Further referring to claims 9 and 12, the metes and bounds of the final paragraph of the claim are unclear. The claim recites embedding in a second portion of the original picture data which corresponds to the watermark-embedding position and which adjoins the first portion of the original data. However, in the penultimate paragraph, the claim recites that a "first position of the original picture data which corresponds to the watermark embedding position." The problem here is clear. The second portion cannot correspond to both the watermark embedding position and adjoin the first portion, because the first portion also

corresponds to the watermark embedding position. These conditions can not all coexist. If we say hypothetically that:

watermark-embedding position == A

first portion of the original picture data == B

second portion of the original picture data == C

The claim is then saying that A == B and A == C, but that C == B + 1. This simply cannot be the case.

Claims 15 and 19 are rejected along the same grounds as claims 9 and 12 above.

Claims 2, 4, 10, 11, 16, 17, 18, and 20 are rejected because they depend from indefinite claims.

In view of the relatively egregious 112(2) problems associated with these claims, the examiner respectfully suggests that the applicant re-draft or substantially amend the claims such that the claims are more definite and a reasonable interpretation can be made.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-4, 9-12, and 15-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 3, the claim recites "calculating a desired bit pattern represented by specified bits." The metes and bounds of this phrase are unclear as it is not clear how/why the desired bit pattern is represented by specified bits. Wouldn't the desired bit pattern be represented by desired bits?

Further, the metes and bounds of the phrase "wherein the desired bit pattern can be converted into the specified bit pattern by given logical operation with the predetermined bit pattern" are also unclear. The claim previously states that the desired bit pattern is represented by specified bits. So, how and why are a desired bit pattern converted into a specified bit pattern, if the desired bit pattern is already represented by specified bits? This simply doesn't make any sense. The examiner is unable to make a clear distinction between specified bits, desired bits, and predetermined bits (or predetermined bit patterns).

Claims 9, 12, 15, and 19 are also rejected along the same grounds as claims 1 and 3 above. The examiner is simply unable to make a clear distinction between the claimed predetermined bit pattern, specified bits, specified bit pattern, and desired bit pattern. As a result, it is not clear how all these elements interact with one another.

Referring to claims 9 and 12, there is no antecedent basis for the terms "specified bits" or "specified bit pattern" as used in lines 11 and 12 of claim 9 and lines 8 and 9 of claim 12.

Further referring to claims 9 and 12, there is no antecedent basis for the term "watermark data." The claim refers to a watermark-embedding position, but does not make any reference to watermark data.

Further referring to claims 9 and 12, the claim recites "embedding a result of the given logic operation." This is ambiguous because the claim refers to two different logic operations. One between the desired bit pattern, and the fixed bit pattern, and one between watermark data and the random-number data.

Further referring to claims 9 and 12, the metes and bounds of the final paragraph of the claim are unclear. The claim recites embedding in a second portion of the original picture data which corresponds to the watermark-embedding position and which adjoins the first portion of the original data. However, in the penultimate paragraph, the claim recites that a "first position of the original picture data which corresponds to the watermark embedding position." The problem here is clear. The second portion cannot correspond to both the watermark embedding position and adjoin the first portion, because the first portion also corresponds to the watermark embedding position. These conditions can not all coexist. If we say hypothetically that:

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The claim is then saying that A == B and A == C, but that C == B + 1. This simply cannot be the case.

Claims 15 and 19 are rejected along the same grounds as claims 9 and 12 above.

Claims 2, 4, 10, 11, 16, 17, 18, and 20 are rejected because they depend from indefinite claims.

In view of the relatively egregious 112(2) problems associated with these claims, the examiner respectfully suggests that the applicant re-draft or substantially amend the claims such that the claims are more definite and a reasonable interpretation can be made.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Rodriguez et al. (US 2002/0099943 A1).

Regarding claim 3, the examiner has given the claim limitations their broadest reasonable interpretation since a clear and definite interpretation cannot be gleaned from the claims themselves.

Rodriguez discloses generating a watermark pattern (Rodriguez paragraph [0013]: The reference describes a message (100) as a watermark).

Rodriguez discloses specifying where the watermark is to be embedded (Rodriguez paragraph [0013]: The reference describes that the watermark is to embedded in the document. Inherent in such a watermark encoder is that the location of the watermark is specified. Any watermark embedding system has to specify a location in order for the watermark to be embedded.).

Rodriguez discloses that the watermark embedding process works by performing a logical operation between the specified bit pattern and the predetermined bit pattern (Rodriguez paragraph [0013]: The reference describes a logical operation between the message signal (i.e. a predetermined bit pattern) and the carrier (i.e. a specified bit pattern of the original image).).

Rodriguez discloses performing these operations to convert original picture data into watermark-embedded picture data (Rodriguez paragraph's [0013-0014]).

Regarding claim 4, Rodriguez discloses that the predetermined and specified bit patterns remain unchanged when being rotated through one of 90, 180, and 270 degrees (Rodriguez Figure 3: The figure shows patterns which are robust to all three of the mentioned degrees of rotation).

As applied to claims 1 and 2, Rodriguez discloses an apparatus for performing the method of claims 3 and 4 (see Rodriguez paragraph 47).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 9-12 and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodriguez et al. (US 2002/0099943 A1) as applied above in claim 1, and further in view of Macy et al. (USPN 6,823,455).

Regarding claim 12, Rodriguez discloses all of the limitations except the generation of a random number and the execution of a logical operation between the watermark and the random number data (the limitations are discussed with more detail in the above 102 rejection). Macy, however, discloses generating a random number and using that random number to produce a watermark (Macy col. 3 lines 16-21). It would have been obvious to one reasonably skilled in the art at the time of the invention to modify the Rodriguez method by executing a logical operation with a random number as taught by Macy. Such a

modification would have allowed for a method/apparatus that could produce a watermark with enhanced visibility, detection reliability, and robustness (see Macy col. 4 lines 6-14).

Regarding claim 9, both Rodriguez and Macy disclose an apparatus for performing the method.

Regarding claim 10, Rodriguez further discloses that the watermark embedding positioin is composed of sub positions dispersing in a frame (see paragraph [0015]).

Regarding claim 11, Rodriguez further discloses that the embedding-position deciding means comprises means for dividing the original picture data into equal-size blocks, means for calculating a degree of a complexity of a picture portion represented by each of the equal-size blocks, means for selecting ones among the equal-size blocks which correspond to calculated complexity degrees equal to or greater than a prescribed value, and means for deciding the watermark-embedding position in response to the selected ones of the equal-size blocks (Rodriguez paragraph [0005]: The rodriguez reference incorporates all of the required embedding limitations by reference from USPN 6,122,403).

Regarding claims 15-20, the above analysis is incorporated herein, and it is further noted that all of the aforementioned bit patterns are two-dimensional.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick L Edwards whose telephone number is (571) 272-7390. The examiner can normally be reached on 8:30am - 5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joe Mancuso can be reached on (571) 272-7695. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick L Edwards

Art Unit 2621

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ANDREW W. JOHNS
PRIMARY EXAMINER